CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5260
FAX (415) 904-5400

W-6a & 6b

August 5, 2003

TO: Commissioners and Interested Parties

FROM: Charles Lester, Deputy Director
Chris Kern, North Central Coast District Manager
Sarah Borchelt, Coastal Program Analyst

SUBJECT: **Addendum to Staff Recommendation for Permit Application Nos A-1-HMB-99-20/A-2-SMC-99-63 (Coastside County Water District)**

Staff recommends that the Commission adopt the following Special Conditions and Findings in addition to those contained in the staff report dated July 25, 2003.

Special Conditions

Add Special Conditions 3, 4, and 5 as follows:

3. Monitoring. On or before April 1 of each year, the permittee shall submit to the Executive Director an updated annual Water Supply Evaluation Report for the prior calendar year that includes all of the following information:

   A. Annual water sales (million gallons) for each of the following user categories:

      1. Priority Uses
         - Public Recreational
         - Visitor-Serving Commercial
         - Coastal-Dependent Industrial
         - Agricultural
         - Total Priority Uses
      2. Non-Priority Uses
         - Residential Single-Family
         - Residential Multi-Family
         - General (Non-Coastal Dependent) Commercial
         - General (Non-Coastal Dependent) Industrial
         - Total Non-Priority Uses

   B. A complete list of all new service connections[1] installed in the prior calendar year by each of the use categories specified in Paragraph A above. The list shall identify the

[1] As used herein, a "service connection" is defined as one 5/8-inch by ¾-inch meter equivalent.

specific property to which each service connection is assigned by assessor's parcel number and map.

C. A complete list of all existing installed service connections within CCWD service district as of December 31 of the prior calendar year by each of the use categories specified in Paragraph A above. The list shall identify the specific property to which each service connection is assigned by assessor's parcel number and map.

D. A complete list of all uninstalled priority service connections remaining within the CCWD service district as of December 31 of the prior calendar year, including both sold and unsold uninstalled connections. The list shall identify the specific property to which each service connection is assigned by assessor's parcel number and map.

E. A complete list of all uninstalled non-priority service connections remaining within the CCWD service district as of December 31 of the prior calendar year, including both sold and unsold uninstalled connections. The list shall identify the specific property to which each service connection is assigned by assessor's parcel number and map.

F. A complete list of all service connection transfers identifying whether the transferred connection is priority or non-priority and the specific properties from which each connection was transferred from and to by assessor's parcel number and map.

G. Monthly water production for each supply source.

H. Updated detailed schematic plan and description of water supply and delivery system, including all existing and planned system components. The plan and description shall indicate all system improvements and significant repairs completed during the prior calendar year.

4. Water Supply Capacity.

A. The total number of water service connections permitted within the CCWD Service District shall not exceed the approved capacity of the Phase I Crystal Springs Project (i.e., a total of 8,078 service connections). The 1,329 non-priority water service connections within the CCWD Service District remaining as of January 1, 2003 shall be distributed only within the CCWD Service District boundaries.

B. A minimum of 599 remaining service connections shall be reserved for priority uses as identified in Condition 3.A.1 above. Existing or reserved priority use service connections may only be reallocated to a non-priority use, pursuant to Policy 2.8 of the San Mateo County Certified LUP.

C. Any increase in the number of service connections or any change in the distribution of service connections as specified in Paragraphs A, and B above shall require either Coastal Commission approval of an amendment to this permit or a new coastal development permit from the affected local government(s).

D. Within 180 days of final action on an amendment to the City of Half Moon Bay Local Coastal Program that updates City growth and/or buildout projections, the permittee shall submit a complete application requesting an amendment to this permit to revise the water service capacity limits specified in Condition 4.A.1 and 4.B above to reflect the Local Coastal Program update.

E. Within 180 days of final action on an amendment to the San Mateo County Local Coastal Program that updates County Mid-Coast growth and/or buildout projections, the permittee shall submit a complete application requesting an amendment to this permit to revise the water service capacity limits specified in Condition 4.A.2 and 4.B above to reflect the Local Coastal Program update.

5. Revised Plans.

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall provide, for the review and approval of the Executive Director, revised plans for replacement of the existing El Granada transmission pipeline with the minimum diameter pipeline necessary to meet the demand requirements of the Phase I Crystal Springs Project (i.e., a total of 8,078 service connections). The revised plans shall be supported by an independent engineering peer review and shall be designed in accordance with the following criteria:

1. Transmission Pipeline Redundancy. In order to account for the additional capacity of a potential parallel transmission pipeline, the capacity of the pipeline shall not exceed 50% of the peak-day demand within the pipeline service area.

2. Gravity Flow System. The transmission pipeline shall be designed to serve average day demand by gravity flow.

3. Supply Source. The water supply assumptions used to determine the operational criteria for the transmission pipeline shall be based on the actual operational history of the Nunes and Denniston Treatment Plants.

4. Fire Protection. The transmission pipeline shall be designed to meet established minimum fire flow pressure requirements pursuant to the California Uniform Fire Code and the California Uniform Plumbing Code.

B. The applicant shall undertake development in accordance with the revised plans approved by the Executive Director. No proposed changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

FINDINGS:

Revise the findings beginning on page 19 before the first full paragraph as follows (additions are shown in underline format deletions are shown in ~~strikethrough format~~):

The explanatory text of the Half Moon Bay LCP prefacing the Development policies summarizes this fundamental point:

> *The projections are viewed, therefore, as a target rather than a commitment. In addition, Section 9.4 of this Land Use Plan limits new residential development in the City to a maximum annual population growth of 3%. Based upon the 1990*

> *U.S. Census, this maximum 3% annual population growth equates to approximately 103 dwelling units per year in the initial year.*
>
> *The Land Use Plan seeks to provide for such projected development, to the extent consistent with specific Coastal Act resource protection policies, City objectives, and the timely availability of services to support such development. The actual ability of the City to accommodate new development during the second 10 years of the forecast period may be limited by the availability of increased water supplies to the mid-coastside, expansion of the sewer system and improvements to transportation systems serving Half Moon Bay.*

In recognition of the potential growth-inducing effects of public works development, both the HMB and SMC LCPs require phased development of new and expanded public works facilities. For example, SMC LUP Policy 2.7 states: "Require the phased development of public works facilities in order to insure that permitted public works capacities are limited to serving the needs generated by development which is consistent with the Local Coastal Program policies." HMB LUP Policy 10-10 "The City will support the phased development of water supply facilities (chiefly pumping stations and water treatment facilities) so as to minimize the financial burden on existing residents and avoid growth-inducing impacts, so long as adequate capacity is provided to meet the City needs in accordance with the phased development policies (including expected development to the year 2000) and allocations for floriculture." However, while both LCPs require the phased development of infrastructure, neither plan specifically defines the planning horizon to be used for this purpose.

HMB LUP Policy 10-6 limits public works expansion projects to "the first two phases of development as shown on Table 9.3," and Table 9.3 shows population growth in the City for the period of 1990 through 2020. LCP buildout is also addressed in Tables 1.1 and 1.2 of the HMB LUP, both of which project anticipated levels of development within the city. Table 1.1, Maximum Housing and Population Half Moon Bay Land Use Plan, projects population growth and residential development in the City through 2020 based on a maximum annual population growth rate of 3%. Table 1.2, Half Moon Bay Maximum Projected Housing and Population Mid-Coastside Urban Areas, projects growth in both the incorporated and unincorporated areas of the Mid-Coast over a 20-year period from 1980 through 2000. None of the policies or tables in the HMB LUP related to growth and buildout address development beyond 2020. SMC LUP Policy 2.9 states: "Base the first phase capacity of public works facilities on documentable and short-term need (approximately 20 years or less) consistent with the Local Coastal Program."

In reviewing the proposed development, the Commission must apply both the planning horizon of approximately 20 years or less from SMC LUP Policy 2.9 along with the buildout and phasing projections through 2020 contained in the HMB LCP. Consistent with these policies, the Commission finds that under both the SMC and HMB LCPs for purposes of reviewing the proposed development, the term *buildout* as used in the above-cited policies must be interpreted to mean, at most, the next phase of buildout reasonably likely to occur under the LCPs by the year 2020 within the area served by the proposed pipeline. Therefore, in accordance with the above-cited policies requiring the phased development of public works facilities, the capacity of

the proposed water transmission pipeline must not exceed the demand for water necessary to serve the anticipated level of development in 2020.

But the phasing requirements of the LCP polices of Half Moon Bay and San Mateo County are also clear that increases in critical infrastructure capacities should be synchronized through "Phase 1", before embarking on new infrastructure projects for a theoretical "Phase 2". This is clear in SMCO LCP Policies 2.9, 2.11 and particularly 2.12, which requires that the results of monitoring Phase 1 development trends be used to determine the timing and capacity of later phases. So, for example, the Crystal Springs Water Supply project was intended to provide water connections for the anticipated growth of Phase 1, defined as the amount of water to serve the Phase 1 2.0 mgd sewer capacity for the Mid-Coast areas (Policy 2.25). However, before building infrastructure that might provide capacity beyond this Phase 1 number, the LCP requires that the County "consider[] the availability of related public works to establish whether capacity increases would overburden the existing and probable future capacity of other public works…" (2.12c). Thus, precisely because of the inherent uncertainty of buildout projections, the LCP established a monitoring system and requirement for phased, synchronized infrastructure development to guard against excessive growth inducing projects. More important, this LCP growth management system provides a mechanism to assure that specific parts of the County and City infrastructure system do not out grow or provide capacity beyond other parts of the system. This is out of recognition that excess capacity in a system component (such as water supply) might further aggravate a system that is potentially at its limits (for example, highway capacity).

The Half Moon Bay LCP also recognizes this methodology in the explanatory text prefacing its public services chapter. While it is clear that the LCP allows for infrastructure projects that meet a reasonably foreseeable buildout scenario, particularly for major supply projects such as the Crystal Springs project, it is also clear that the LCP policies are intended to guard against growth inducing capacities, particularly for other types of infrastructure projects such as distribution pipelines. And again, the importance of "recalibrating" the public infrastructure system during Phase 1 is critical. The LCP states:

> *While it is not desirable to construct more public works capacity than required, it is also not cost-effective to underestimate potential demand by such an amount that subsequent costly expansions will be needed within a short time-period. Construction of excessive capacity poses problems of excessive financial burden and pressure for growth in excess of that proposed to be accommodated. On the other hand, provision of inadequate capacity to accommodate expected needs within a reasonable time horizon related to the useful life of the facilities can result in overburdened facilities and "stop" and "start" development practices resulting from unexpected service moratoria which are detrimental to orderly growth.* ***Of even greater importance is coordinated phasing of public works capacity increases so that expansion of one service does not result in growth which cannot be accommodated by another****. This is also essential in order to provide for reasonable, orderly growth in increments which the City and special service districts can monitor and handle without a burden on other services, such as fire and police services. The necessary response to this problem is*

> *coordination of facility expansions and management of new development on an incremental basis.*
>
> *The Plan proposes to phase both public works capacity increases and new development in order to maintain balance between them. The phasing of development over time is incorporated in the policies of Section 9, Development. The policies in this section are intended to support and reinforce this phased development plan. However, it is neither desirable nor feasible to phase or limit all early capacity expansions in line with a specific target period of growth, such as 10 years or 20 years. The appropriate amount of capacity to be provided depends on the relative costs and financial impacts associated with construction of varying levels of capacity in relation to future potential demand. In the case of water supply improvements, major projects required to increase overall available supply cannot be undertaken in small increments, either technically or cost-effectively.* ***However, some types of water delivery facilities can and may appropriately be phased in order to minimize additional cost and possible growth-inducing pressures****. Road improvements are susceptible to a more refined phasing approach, within limits. There are a variety of potential improvements, and moderate increases in capacity can be achieved prior to commitments to significant changes in highway facilities, pending greater certainty about needs and possibly increased transit patronage. Generally, sewage treatment plant capacities can be expanded in increments, although detailed cost analysis is necessary to determine the relative benefits of commitments to specific capacities. [Emphasis added.]*

In any event, to understand whether the proposed CCWD pipeline is appropriately sized, it is important to both understand the relationship of the project to anticipated growth over the next twenty years, and its relation to other parts of the public infrastructure system.

First, d~~D~~etermining whether the proposed 16-inch pipeline is appropriately sized to accommodate growth over a 20-year planning horizon (starting in 2000 and ending in 2020) involves a comparison of the projected water demand in 2020 on the one hand, with pipeline transmission capacity on the other. An analysis of projected water demand and pipeline transmission capacity is presented in the following sections.

Revise the findings beginning with the first full paragraph on page 34 of the staff recommendation as follows (additions are shown in underline format deletions are shown in ~~strikethrough format~~):

In addition, the discussion above illustrates how it is difficult to ascertain the maximum capacity of the proposed 16-inch El Granada pipeline. Since CCWD did not identify the maximum capacity of the pipeline, and it appears that the pipeline capacity could be increased when water production is increased and added to the system (e.g. Denniston operating scenario), it is unclear

whether the pipeline is actually appropriately sized because it might be able to accommodate additional water, which it could serve to additional demand. ~~These concerns notwithstanding, it appears that based on the information provided by the applicant that the maximum operating capacity of the proposed 16-inch pipeline would be 2.56 mgd.~~

4.2.5 Conclusion – Matching Demand to Capacity

According to the 1997 Master Plan, CCWD sized the proposed pipeline to serve a peak demand at buildout of the LCPs of 4.66 mgd. However, as discussed above, the Commission finds that the demand projection used by CCWD is greater than is reasonably justified. Therefore, the Commission has re-evaluated probable future water service demand within the service area of the proposed pipeline, taking into account anticipated LCP updates and a 20-year planning horizon to forecast growth, and CCWD meter records to establish use levels by both residential and non-residential uses.

Through this analysis, the Commission has derived a range of possible demand projections. In addition to the ranges projected by the Commission, the City of Half Moon Bay planning staff has provided a figure of 145 units maximum potential growth for the city areas served by the pipeline (**Exhibit 6**). Thus, in addition to the possible future demand scenarios above, the Commission has carried out the same calculations using the City's projected maximum potential growth within the pipeline service area. Table 11 below summarizes the projected average and peak demand for 2020 based on a range of growth assumptions as well as using the City's growth projection. Scenarios 1 and 2 of Table 11 are based on the City's growth assumption of 145 units by 2020.

Table 11: Projected 2020 Service Area Demand

Scenarios	Average water demand in pipeline service area in 2020	Peak demand at 150% of average	Peak demand at 180% of average	Peak demand at 190% of average
Scenario 1 [(G)(F)]	1.75 mgd	**2.62 mgd**	3.14mgd	3.32 mgd
Scenario 2 [(G)(C,D,E)]	1.83 mgd	2.74 mgd	3.29 mgd	3.47 mgd
Scenario 3 [(B)(F)]	1.83 mgd	2.74 mgd	**3.29 mgd**	3.47 mgd
Scenario 4 [(B)(C,D,E)]	1.91 mgd	2.86 mgd	3.43 mgd	3.62 mgd
Scenario 5 [(A)(F)]	1.96 mgd	2.95 mgd	3.53 mgd	3.73 mgd
Scenario 6 [(A)(C,D,E)]	2.04 mgd	3.06 mgd	3.68 mgd	**3.88 mgd**

These demand projections vary depending on the growth scenario used, with the lowest demand of 2.62 mgd based on the City's reduced growth projection of a total of 145 new units constructed in the pipeline service area by 2020 and using a 150% peak use multiplier (Scenario 1 at 150%). The highest projected demand of 3.88 mgd is based on the maximum allowable growth under the current LCPs and a peak use multiplier of 190% (Scenario 6 at 190%). Of these demand scenarios, the Commission finds that a peak day demand of 3.29 mgd (Scenario 3 at 180%) represents the most reasonable 2020 demand projection for the pipeline service area, assuming that other infrastructure capacity is otherwise available to support this growth. All of these demand projections are substantially lower than the peak day demand at LCP buildout of 4.66 mgd assumed by CCWD. It should be emphasized, that all of these projections are general estimates, with considerable uncertainty associated with them. As discussed below, though, given the LCP requirements of phasing infrastructure development, it is apparent that the "most

likely" growth scenario assumed is not as critical to the question of how much capacity the CCWD pipeline should have.

~~Because CCWD has not provided the actual maximum operating capacity of the proposed pipeline, the Commission has extrapolated a maximum operating capacity of 2.56 mgd based on data provided in CCWD's Engineering Master Plan.~~

~~The extrapolated maximum operating capacity of 2.56 mgd would supply approximately 97% of 2020 projected peak day demand under the lowest demand projection of 2.62 mgd (Scenario 1 at 150%), 75% of the projected peak day demand of 3.29 mgd (Scenario 3 at 180%), and 65% of the 3.88 peak day demand projected under Scenario 6 at 190%. Thus, assuming that the extrapolated maximum operating capacity of 2.56 mgd is reasonably accurate, the capacity of the proposed 16-inch pipeline would not exceed the demand for water within the project service area in 2020.~~

~~The Commission recognizes that a substantial margin of error exists in this analysis. Nevertheless, the Commission finds that based on the information available and the foregoing analysis, the capacity of the proposed 16-inch pipeline would not exceed the peak day demand at buildout.~~

As discussed above, the actual operating capacity of the proposed pipeline is uncertain. However, the applicant states that the pipeline is designed only to meet the service capacity already approved under the Phase I Crystal Springs Project, i.e., a total of 8,078 5/8-inch by ¾-inch equivalent meter service connections, with 1,329 non-priority and 599 priority uninstalled connections remaining. CCWD contends that such capacity would be consistent with the HMB and SMC buildout limitations and that the project is therefore consistent with the LCPs.

Based on the foregoing growth and demand projections, the Commission finds that the 1,329 non-priority and 599 priority uninstalled connections remaining under Phase I of the Crystal Springs Project would not exceed the most likely demand scenarios for water service within the CCWD service district in 2020. However, in light of the above-discussed uncertainties concerning the actual operational capacity of the proposed pipeline, the Commission finds it necessary to condition the permit to limit new service connections to its stated design capacity. Accordingly, Special Condition 4.A. would limit the number of new non-priority service connections to only those uninstalled connections remaining under the previously approved capacity of the Phase I Crystal Springs Project. As discussed below in the discussion of Phasing, this condition is also necessary to meet LCP requirements for synchronized infrastructure improvements through Phase 1.

To ensure that water service capacity is reserved to support priority land uses as required under the LCPs, Special Condition 4.B. prohibits the transfer of any of the 599 remaining uninstalled priority service connections to a non-priority use, except under the limited circumstances within the San Mateo County portion of the service district under the limited circumstances specified pursuant to SMC LUP Policies 2.8.c and 2.8.d.

Special Condition 4.C. specifies that any increase in the number of allowable service connections or change in the distribution of connections would require either an amendment to this permit or a new coastal development permit from the City and/or County. The Commission finds that

these limitations help to ensure that the capacity of the proposed pipeline would not exceed the previously approved Phase I water supply capacity.

While Special Conditions 4.A., 4.B, and 4.C. address some of the uncertainty concerning the actual service capacity of the proposed pipeline, because the LCPs are out of date, uncertainty concerning future demand remains. To address the uncertainty on the demand side of this analysis, the Commission has updated LCP growth projections in Section 4.2.2 above. However, in recognition of the pending HMB and SMC LCP updates, Special Conditions 4.D. and 4.E. require the applicant to amend this permit, if necessary, following final action on the LCP updates to reconcile the approved water service capacity and distribution limits to match updated growth, phasing, and service demand projections. In addition, Special Condition 3 requires the applicant to provide an annual monitoring report consistent with the requirements of HMB LUP Policy 10-2 and SMC LUP Policy 2.26. The information provided by the required monitoring reports will assist in revising water service demand projections as part of the update to the City and County LCPs.

Finally, in addition to limiting new service connections under Special Condition 4, the Commission finds that it is also necessary to ensure that the actual operational capacity of the proposed pipeline would not exceed the previously approved Phase I supply capacity to avoid growth-inducing effects. As discussed below, this is required to assure consistency with San Mateo County LCP Policy 2.12 and HMB Policies concerning phasing (see below). Therefore, Special Condition 5 requires that prior to issuance of the coastal development permit the applicant provide revised plans supported by an independent engineering peer review for the minimum diameter pipeline necessary to meet the demand requirements of the Phase I Crystal Springs Project (i.e., a total of 8,078 service connections). The revised plans would be based on specified engineering criteria, including gravity flow, redundancy, fire flow requirements, and the actual operational history of CCWD's water supply and transmission system. Special Condition 5 is necessary to prevent the potential growth inducing effects that would result from the construction of actual transmission system capacity in excess of demand.

The Commission finds that, taken together, Special Conditions 4 and 5 ensure that the capacity of the proposed pipeline would not exceed the demand for water service within the CCWD service district allowable under the phased buildout requirements of the HMB and SMC LCPs. Therefore, the Commission finds that the proposed project is consistent with Half Moon Bay LUP Policies 10-3, 10-6, 10-9, and 10-10 and San Mateo County LUP Policies 2.6, 2.7, 2.9, 2.11, 2.12, 2.13, 2.25, 2.26, 2.27, 2.28, 2.29, and 2.35.

On page 39, revise Conclusion section as follows:

The proposed expansion of CCWD water service capacity would be in phase with Mid-Coast region's existing wastewater treatment capacity as well as with the probable future capacity of Mid-Coast school facilities, but is arguably not in phase with either the existing or probable future capacity of the region's highways.

The Commission recognizes that the development levels provided for in the certified LCPs are not entitlements and represent the maximum potential development allowable after application of all relevant policies and standards of the certified local coastal program. The certified

development levels do not represent the actual development level allowable after application of all relevant policies and standards of the certified LCP, including the LCP policies relating to traffic and public access to the coast. ~~Nevertheless, because the land use plans and zoning currently in effect provide for potential continued growth at a level that could generate additional demand for water service and because the application of certified LCP policies and standards, rather than the size of the pipe, will ultimately determine the level of development allowable given the existing and probable future capacity of the region's highways, the Commission finds that the proposed development is consistent with HMB LUP Policy 10-3 and SMC LUP Policies 2.12 and 2.17.~~

More important, though, as previously explained, both the SMCO and HMB LCPs require the phasing of infrastructure improvements. In particular, at a minimum the LCPs seek to assure that new infrastructure capacity is not provided that could be growth inducing or that could exceed reasonably foreseeable capacities of other parts of the community's infrastructure. In particular, the LCPs require that monitoring occur, and that Phase 1 buildout be examined carefully to assure that Phase 2 capacities are not provided prematurely.

As discussed above, there is a serious capacity problem with the Highway and roads infrastructure in the Half Moon Bay area. This problem exists at current levels of development, and will only be exacerbated by buildout of remaining water connections sold through the Crystals Springs Project. At a minimum, therefore, it is important that new infrastructure capacities not exceed the Phase 1 limits that are currently provided by the pool of remaining water connections in the CCWD service area. In addition, it is important that the CCWD verify that the actual pipeline project built is the minimum necessary to serve this anticipated buildout of Phase 1. Therefore, Special Conditions 3, 4, and 5 are necessary to assure consistency with LCP policies requiring phased buildout and avoidance of growth inducing capacities (Half Moon Bay LUP Policies 10-3, 10-6, 10-9, and 10-10 and San Mateo County LUP Policies 2.6, 2.7, 2.9, 2.11, 2.12, 2.13, 2.25, 2.26, 2.27, 2.28, 2.29, and 2.35).